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In the Supreme Court of the United States

OCTOBER TERM, 1975

C. MARSHALL DANN, COMMISSIONER OF PATENTS AND TRADEMARKS, PETITIONER

v.

THOMAS R. JOHNSTON

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF CUSTOMS AND PATENT APPEALS

BRIEF FOR THE PETITIONER

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OPINIONS BELOW

The opinion of the Court of Customs and Patent Appeals (Pet. App. 1A–22A) is reported at 502 F. 2d 765. The opinion of the Patent Office Board of Appeals (Pet. App. 25A–36A) is not reported.

JURISDICTION

The judgment of the Court of Customs and Patent Appeals (Pet. App. 23A) was entered on October 11, 1974. On December 12, 1974, the Chief Justice extended the time for filing a petition for a writ of certiorari to February 16, 1975 (a Sunday). The petition

was filed on February 18, 1975 (February 17 having been a legal holiday), and was granted on May 12, 1975. The jurisdiction of this Court rests on 28 U.S.C. 1256.

QUESTIONS PRESENTED

1. Whether this Court's holding in *Gottschalk* v. *Benson,* 409 U.S. 63, that a new idea to be implemented by programming an existing computer is unpatentable when claimed as a new "process," also applies when the programmed computer is claimed as a new "machine system."

2. Whether programs for existing general purpose digital computers, however claimed, are patentable under present law.

3. Whether respondent's idea of having banks provide an additional bookkeeping service by programming their computers to sort check and deposit data in accordance with category codes was in any event no more than an obvious improvement over prior art.

CONSTITUTIONAL AND STATUTORY PROVISIONS INVOLVED

Article I, Section 8, clause 8, of the Constitution of the United States, provides:

> The Congress shall have Power * * *
>
> * * * * * *
>
> To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries * * *.

35 U.S.C. 100(b) provides:

> The term "process" means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.

35 U.S.C. 101 provides:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

35 U.S.C. 103 provides:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

STATEMENT

Respondent applied (A. 3–85, 107–109)[1] for a patent on a modified system for using existing general purpose digital computers in conducting the banking business. The system permits a bank to offer checking account customers a bookkeeping service that not only provides the usual overall balance and activity statement, but also furnishes subtotals for various categories of debit and credit transactions, such as rent or

[1] "A." refers to the printed Appendix. "Pet. App." refers to the appendix to the Petition for a Writ of Certiorari. "Br. in Opp." refers to the Brief in Opposition to the Petition.

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fuel payments, sales income or dividends received, etc. Under respondent's system, the customer labels each check (or deposit slip) with an appropriate category code that designates the type of transaction. The bank records this category code on the check (or deposit slip) in magnetic ink characters and stores the category data in the memory of the bank's computer, along with the other data normally associated with the transaction.[2] At the end of the monthly statement period, the bank's computer sorts the customer's transactions according to category codes, and causes information concerning each transaction and a subtotal to be printed out for each category (Pet. App. 3A–7A).[3] Respondent stated that his "invention is being sold as a computer program to banks * * * so that they can perform these data processing services for depositors" (*id.* at 19A).

[2] According to the patent application, banks use digital computers "for the handling of much of the record-keeping operations involved in a banking system" (A. 3). Typically, checks and deposit slips carry the following information (among other data) in magnetic ink (or other machine-readable) characters printed on them: customer's account number, amount of the transaction, and whether the transaction is a deposit (credit) or check (debit). This information is printed in magnetic ink to facilitate the processing of such data by the bank's computer. Respondent's system adds another such item: the code for the transaction category (rent payments, etc.), so that the computer can process this item along with the others (A. 4–5).

[3] The result is analogous to the customer's writing "rent," "fuel" or the like on each check as he draws it (or similarly marking each deposit slip) and, upon receipt of each monthly statement, sorting out the cashed checks and the deposit slips in each category into separate piles and adding up the subtotal for each pile.

The patent application (see A. 3–85) describes the necessary steps in the operation, contains flow diagrams for the operation of this type of program, and gives as an example a specific program for use on the IBM 1400 series general purpose digital computer. Respondent sought to patent the system both as a "process" and as a "machine system" or apparatus.[4] A typical "machine system" claim, set out in the opinion of the court below (Pet. App. 5A–7A; see A. 107–109, in addition to describing the usual operations of such a computer, provides in substance:

> A record-keeping machine system for financial accounts, said system comprising a data processor (such as the IBM 1400) including the usual components, and having means for processing category-coded transaction data to compute subtotals for each category, as well as means for producing an output record of each category's subtotal.

The patent examiner rejected all the claims as being anticipated by prior art and hence unpatentable under 35 U.S.C. 102 (see A. 89–91) and for other reasons.[5] Respondent appealed to the Patent and Trademark Office Board of Appeals, which did not adopt all of the examiner's grounds for rejection, but instead rejected the claims on new grounds (pursuant to 37 C.F.R. 1.196). It said that the claims

[4] As used in patent law, the terms "machine" and "apparatus" are synonymous.

[5] The examiner also found respondent's claims invalid under 35 U.S.C. 112 for not "particularly pointing out and distinctly claiming" what he considers to be his invention (see A. 91–92). The rejection under Section 112 is not in issue here.

were "not directed to improve record keeping machinery, but rather to a broad system of keeping financial records where the distinction over acknowledged prior record-keeping is either in the identity of the * * * institution which has custody of certain phases of the bookkeeping operation or in * * * the relationship existing between the various records," and that the claims thus do not "spell out * * * any particular configuration of business machinery" (Pet. App. 29A). Such claims do not define a patentable "machine," the Board stated, because the invention, if any, is only in the meaning (rent account, dividend account, etc.) given by the user to the pattern of electrical signals stored in the computer's memory. A preexisting computer performing with a particular program does not become a different machine merely because the user has assigned different meanings to various sections of its memory.[6] As the Board explained (*id.* at 30A):

[6] The Board appears to have rejected the claims as not covering statutorily patentable subject matter on the ground that the program did not enhance the internal functioning of the machine, but was merely a process for using the computer outside the "technological arts" and hence unpatentable under prior decisions of the Court of Customs and Patent Appeals (Pet. App. 31A–34A). *E.g.*, *Application of Musgrave*, 431 F. 2d 882, 893; *Application of Foster*, 438 F. 2d 1011, 1015; *Application of Benson*, 441 F. 2d 682, 688, reversed on other grounds *sub nom. Gottschalk* v. *Benson*, 409 U.S. 63. In so holding, the Board nevertheless recognized that under the case law as it then stood (*i.e.*, prior to *Gottschalk* v. *Benson*, *supra*), as declared by the Court of Customs and Patent Appeals, "an unprogrammed, or a differently programmed, general purpose computer is [not] the same machine as the one that would result from appellant's programming of the same or of a similar computer" (Pet. App. 28A). The Board noted that the examiner had apparently operated on the contrary "premise" (*ibid.*).

> There can be no structural or operational relationship of a computer memory with the meaning one chooses to assign outside the computer to a particular configuration of binary digits or "bits" in its memory. Although a a group of such bits is processed as an alphanumeric character within the computer this results from the physical states of the memory cells and manifestly this is unrelated to whether a series of such characters represents a stock number of a part or a sum of money, outside the computer. A computer operating with any given stored program is not a different machine simply because one chooses to denominate a section of its memory by a term descriptive of one meaning, such as a file of stock numbers rather than a file of sums of money.

The Board concluded (Pet. App. 33A) that there was "no essential difference in substance" between the "machine system" or "apparatus" format used in the claims now before this Court, and respondent's "process" claims (the format subsequently ruled unpatentable in *Gottschalk* v. *Benson*, 409 U.S. 63, under 35 U.S.C. 101). The Board stated that respondent's "machine system" or apparatus claims simply covered a conventional data processor having " 'means' for performing conventional bookkeeping and accounting operations" (Pet. App. 33A). The Board therefore held that the "machine system" claims and the process

claims "must stand or fall together" (*ibid.*), and rejected them all as involving subject matter that is unpatentable under 35 U.S.C. 101.

The Board also ruled that the claims were "obvious variations" (Pet. App. 34A) of conventional bookkeeping systems[7] and of a system previously disclosed in a prior patent (the Dirks patent (see A. 94–106), cited by the examiner),[8] and hence that they were unpatentable under 35 U.S.C. 103.[9]

Subsequent to the Board's decision, but before that of the court below, this Court decided *Gottschalk* v. *Benson, supra*, reversing the judgment of the Court of Customs and Patent Appeals in *Application of Benson*, 441 F. 2d 682, and holding unpatentable a claim for a "process" to be embodied in a program and used in a general purpose digital computer. In his appeal to the court below respondent initially challenged the

[7] The conventional systems to which the Board referred are multiple account systems by which banks carry "special," "trust," "escrow," or "personal" accounts and the like for a single customer. By combining totals from the statements for each of the accounts into a single statement, the bank can readily furnish the customer the same kind of data as respondent claims to do in his alleged invention (Pet. App. 34A–35A).

[8] The Dirks patent claimed certain computer devices, but its introductory specification explained and disclosed, among other things, a cost accounting system for mercantile establishments. The Board considered it obvious to modify that system to implement respondent's idea since the most significant difference between the two systems was merely whether they were employed in stores (Dirks) or banks (respondent) (*id.* at 35A).

[9] Like the examiner (see p. 7, *supra*, n. 6), the Board also rejected respondent's claims "for indefiniteness in failing to distinctly point out the invention" as required by 35 U.S.C. 112 (Pet. App. 29A–31A).

Board's failure to follow the decision of that court in *Application of Benson, supra* (A. 112), but, following this Court's reversal of that decision,[10] he abandoned his "process' claims and pressed only his alternative "machine system" claims (Pet. App. 2A, n. 1).

The Court of Customs and Patent Appeals reversed 3-to-2, holding that this Court's decision in *Benson* applied only to process claims and was not "applicable" to apparatus claims (Pet. App. 14A). Because respondent's claims expressly purported to cover a "machine system," the court rejected the Board's conclusion that the application claimed subject matter that was unpatentable under Section 101 (*id.* at 13A–14A). *Benson* was also inapposite, in the court's view, because Benson's claims covered a mathematical formula or algorithm, in contrast with respondent's business or financial record-keeping system (*id.* at 14A). Finally, the court overturned the Board's rejection for obviousness because it did not regard respondent's alleged invention as "equivalent" to the prior art (*id.* at 15A–16A).[11]

Chief Judge Markey dissented. For him, the mere fact that differences existed between the prior art and the claimed advance did not suffice to make the advance unobvious (*id.* at 16A–17A).

[10] Respondent had obtained in the court below a suspension of proceedings pending this Court's decision in *Benson* (A. 1).

[11] The court also reversed the Board's rejection under 35 U.S.C. 112 (see p. 8, *supra*, n. 9), concluding that respondent's claims were adequately directed to a machine rather than only the relationship of a bank and its customers (Pet. App. 12A–13A).

Judge Rich dissented separately on the basis of *Benson* (*id.* at 17A–22A). Respondent's invention, if any, he said, was a program to be used in an existing general purpose digital computer. That the respondent's claims were cast in the format of a machine claim ("machine system" or "apparatus") rather than a "process" claim format was immaterial, since "[e]very competent patent draftsman knows how to do that," and Benson could readily have cast his process claims in "machine system" form similar to respondent's (*id.* at 20A). Judge Rich stated that the "legal doctrine that a new program makes an old general purpose digital computer into a new and different machine," on which the majority implicitly relied in its opinion, was a "legal fiction" which was not helpful in deciding whether a program claimed as such a "machine" was patentable in view of *Benson* (*id.* at 19A). Since the majority's distinctions between the instant case and *Benson* were not "realistic" and were a matter of "form rather than substance," Judge Rich found *Benson* controlling and would have affirmed the rejection (*id.* at 21A–22A).

SUMMARY OF ARGUMENT

1. Despite the superficial complexity and obscurity of the language of respondent's patent application, the nature of his alleged invention is quite simple. In essence, it is the idea of having banks provide an additional record-keeping service for their checking account customers by programming existing types of general purpose digital computers to record and proc-

ess a category code specified by the customer for each debit and credit transaction (*e.g.*, "rent" check; "dividend" deposit) and to include in periodic statements a breakdown showing subtotals for each category. Respondent does not claim to have invented any new computer apparatus. Nor does he claim that the means of implementing his idea by programming a computer is inventive in itself; the idea concededly involves use and modification of standard, conventional, programs now used by banks.

Although respondent's idea is embodied, and has been reduced to practice, in the form of a program for an existing general purpose digital computer, the asserted inventiveness lies in the idea underlying the program, not the actual preparation of the program itself. Accordingly, what respondent seeks—and what the Court of Customs and Patent Appeals awarded him—is a monopoly on the idea of using existing computers (which are inherently designed to serve a variety of data processing purposes) for certain additional somewhat different, types of applications.

2. A. The monopoly on an idea that respondent seeks is unavailable because, under established principles recently reaffirmed by this Court in *Gottschalk* v. *Benson*, 409 U.S. 63, ideas do not constitute patentable subject matter under existing law. The discovery of a new idea can be the basis of a patent grant only when the idea is embodied in a novel machine or process. In addition, such a machine or process must itself be "unobvious" and otherwise satisfy the statutory requirements for patentability. It is not enough if,

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once the idea was disclosed, the implementation of it in a machine or process would be obvious to anyone skilled in the pertinent arts.

B. The implementation of respondent's idea is not patentable, whether viewed as a program for a general purpose digital computer or as a computer reprogrammed for a special purpose. Since the earliest patent laws, one who invents a new use for an existing machine has not thereby been entitled to a machine patent.

Although a "process" patent is now available under 35 U.S.C. 100(b) and 101 to one who invents a new use for an old machine (if other conditions of patentability are met), respondent has abandoned his process claims and cannot rely upon them to sustain the decision below granting him a patent on his "machine" claims.

In any event, in *Benson* this Court held that process patents are unavailable under present law for new programs for existing general purpose digital computers.

C. Respondent's idea for programming existing general purpose digital computers does not, when implemented, produce a "new machine" or "machine system" on which respondent may claim a machine patent. If respondent's claim were sustained, any computer program that, like Benson's, is unpatentable as a process, could be recast as a "machine system" so as to be the basis for an even broader patent monopoly than that sought and rejected in *Benson;* this would, in effect, extend for the originator of the pro-

gram, the patents covering such machines. To say that a reprogrammed general purpose digital computer is a "new machine" each time it accepts a program for an additional application is to elevate form over substance and to base the grant of an important monopoly right on what Judge Rich, in dissent below, correctly called "a legal fiction" (Pet. App. 19A).

If patent rights should be extended to programs or programming ideas for general purpose digital computers, then "considered action by the Congress is needed." *Benson, supra,* 409 U.S. at 73.

3. Even if respondent's programming idea involved patentable subject matter, the decision below awarding him a patent should be reversed because, in light of the prior art and practices of banks, his "invention" would have been obvious to one skilled in the art of devising computer programs. For example, respondent's idea is an obvious extension both of the practices of banks in maintaining separate special accounts for particular customers, and the Dirks patent, which disclosed a system of maintaining diverse accounts for varied divisions of a large enterprise.

ARGUMENT

I. INTRODUCTION: COMPUTERS, PROGRAMS, AND RESPONDENT'S CLAIMED DISCOVERY

The issues in this case are (1) whether respondent's claimed invention concerning a new use of existing general purpose digital computers constitstes patentable subject matter, and (2) whether that new use was unobvious to one skilled in the art of devising

such uses. The questions are interrelated, for the determination of what constitutes patentable subject matter establishes a framework within which the question of obviousness may be assessed, and delineation of the assertedly non-obvious aspect of the claimed invention can focus more precisely the analysis of whether it involves patentable subject matter. Therefore we will begin by considering what it is that respondent claims he has invented that is sufficiently novel and unobvious to be entitled to a patent monopoly against all others who would use such computers in like fashion. Because respondent's claims are cast in not only the specialized language of patent applications but the esoteric terminology used to describe even a routine operation of a general purpose digital computer, they may be more readily explained if we first describe such computers and programs briefly.

A computer, for present purposes,[12] is an electronic device that, pursuant to appropriate controls, can perform specified arithmetical and logical operations so as to process data stored in its "memory" or presented as part of the "input" to the computer, and to present the results in a designated form of "output." The particular operations to be performed by a com-

[12] The nature of computers and computer programs was extensively canvassed in the numerous briefs of the parties and the *amici* in *Gottschalk* v. *Benson*, October Term 1972, No. 71–485. The issues in this case, however, do not require as deep an acquaintance with the technicalities of computer operations as did that case. For a recent and more detailed treatment of the matters discussed in the text, see 4 *New Encyclopedia Britannica: Macropaedia* 1045–1058 (15th ed. 1974).

puter are governed by the state and configuration[13] of its electronic circuitry and other apparatus. Such circuitry can be fully built into the computer through wires and other physical elements (*i.e.*, as part of the "hardware"), in which case, unless it is physically rewired, the computer will ordinarily serve only a specific purpose or application.

Alternatively, the computer may be designed so that the state or configuration of its circuitry can readily be changed without rewiring or other visible physical changes. Such changes are accomplished by the use of different "programs" which through various means (*e.g.*, punched cards, tapes, disks) transmit instructions and data to the computer, in a code or "language" that the computer has been designed or programmed to "understand," for conversion to electronic impulses. "Digital" computers, but not "analog" computers, operate in this manner.[14]

Some programs, called "system software," are directed only to certain standard essential operations of the computer itself (*e.g.*, translating, sorting) that are required to serve virtually any end use of the computer. Others, called "applications software" or "applications programs," are designed to make the

[13] "State" refers to the internal molecular or electronic condition of a part (*e.g.*, magnetized in one polarity or another; charged or uncharged), while "configuration" refers to the physical location and arrangement of parts.

[14] While digital computers operate by counting discrete signals, analog computers operate continuously by measuring variables, and typically consist of fixed-wire apparatus that do not accommodate varied programs of instructions. About 90 percent of the computers now in use are digital computers.

computer perform specified data processing operations for particular users. It is the latter type of program that is involved in this case and is generally denoted by references to computer programs in common parlance.

A general purpose digital computer is designed to operate under a variety of different programs to perform diverse data processing operations. Flexibility is its essence. As the Court observed in *Gottschalk* v. *Benson,* 409 U.S. 63, 68, the end uses of such computers "vary from the operation of a train to verification of drivers' licenses to researching the lawbooks for precedents * * *." But such tasks are simply different uses for a machine that is specifically designed to perform a wide variety of tasks involving the processing of complex or voluminous data, in some cases implementing different applications programs virtually simultaneously. Simply put, the difference between a general purpose digital computer (with which we will be concerned hereafter), and a fixed wire computer is like the difference between a player piano and a music box, respectively.

In considering claimed inventions involving the use of existing general purpose digital computers, it is useful to focus on three successive modes of activity: (1) formulating the ultimate purpose to be served by a computer operation; (2) implementing that purpose or idea by determining what data should be stored in the computer's memory or be included in the input to the computers, and what steps the computer should be instructed to take in processing the data; and (3)

translating those instructions into a special form and language that the computer can read. The term "program," while in a sense referring only to the product of the third phase, which may involve no more than a rather routine or mechanical operation, is also used generically to encompass the second phase as well.[15] In some cases, moreover, the implementation of the purpose to be served may require the use of other apparatus in conjunction with the computer.

Theoretically, inventiveness could be claimed for any of these steps. Thus, one might claim to have invented, singly or in combination: a new end use for a known computer, a new set of instructions to a computer to accomplish a specified operation,[16] a new language by which to instruct the computer, or a new device (or combination of a computer with an existing device).

As we shall see, the alleged inventiveness or novel discovery supporting the respondent's claim to a patent resides only in the first, and most abstract, mode—the general idea or purpose that the com-

[15] We do not suggest that every issue concerning the application of the existing patent laws to computer programs can and must be analyzed by reference to this tri-partite framework, although we believe that it usefully characterizes the broad range of computer programming.

[16] In *Benson*, for example, the general idea of converting from binary coded decimal numerals into pure binary numerals (a conversion used primarily in computer operations) was not claimed to be inventive, as that could previously be done without a computer by use of tables. 409 U.S. at 67. Rather, the invention claimed was the formula or program for instructing a general purpose digital computer to take specified steps to make the conversion. See *id.* at 64, 67, 73–74.

puter would be programmed to implement. This idea (rather than merely the commercially exploitable program means for implementing it, see p. 4, *supra*) as such is what respondent asserts to be sufficiently novel and unobvious to be patentable.

More specifically, respondent's alleged "invention" consists of the idea of having banks program and use their existing computers, through conventional programming techniques, to perform for their customers simple bookkeeping services that the customers either perform for themselves, hire a bookkeeper to perform, or else forego. The service consists of preparing balance statement subtotals for credits and debits in categories designated by the customer, such as rent payments, fuel payments, dividends received, sales income, and the like. As conceded by respondents (see p. 4, *supra*), the "invention" is marketed to banks in the form of an appropriate computer program, which the banks can then use on their conventional general purpose digital computers (*e.g.*, the IBM 1400).

"Stated without artifice," [17] at the heart of respondent's claimed invention is the idea of including on the check or deposit slip an additional item of information—a number or letter code (see A. 9–10) designating one of several previously specified categories into which the particular transaction falls—which the bank's computer then stores and processes in essentially the same manner as it already stores and proc-

[17] *Great Atl. & Pac. Tea Co.* v. *Supermarket Equipment Corp.*, 340 U.S. 147, 149.

esses other data associated with the transactions. See generally Mayer, *The Bankers* 119–154 (1974). As the sample check included in respondent's application indicates (Fig. 4, A. 72, reproduced below) it is as if, by adding the category code ("CAT. NO.") to the customer's account number, a series of sub-accounts were established:

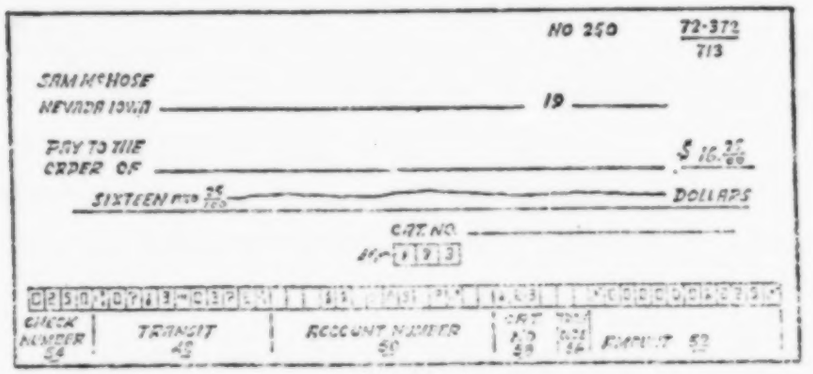

Fig. 4.

Although respondent characterizes his invention as consisting of the "machine system" that results when a conventional digital computer is programmed to implement this idea, he does not claim to have invented a computer, nor does he claim that the program of instructions to the computer to implement the idea are themselves sufficiently inventive to be a patentable "Discovery" contemplated by the patent clause of the Constitution and by the Patent Code. Indeed, respondent's application acknowledges that a typical program would embody "known" and "standard techniques" (A. 12) and modifications of "conventional" or "ordinary" computer processing of bank accounts (A. 12).

Respondent's claimed invention, therefore, is not like a novel telegraph apparatus or any other piece of tangible machinery. The "means" disclosed by respondent are those of an ordinary general purpose digital computer, as presently used by banks, with a program directing the components of the computer to sort check and deposit data into different categories in the conventional way the computer performs such tasks, and then conventionally to print out the results of the sorting operation.

II. AS A NEW IDEA FOR USING EXISTING GENERAL PURPOSE DIGITAL COMPUTERS, RESPONDENT'S CLAIMED INVENTION DOES NOT CONSTITUTE PATENTABLE SUBJECT MATTER

As we have seen, the gist of respondent's claimed invention is the idea of having banks modify their usage of existing computers so as to include and process an additional item of information (the category code) associated with each transaction in its customers' checking accounts. Thus, as is often the case with new developments in the field of computer applications, the assertedly imaginative element consists essentially of the idea of combining and relating specific types of data in a particular manner.

Now that banks generally use computers, it is unlikely that any proposal for supplying more than the most simple statements to their customers would be of practical use to banks unless it could be carried out on existing computers. Indeed, this is the fundamental premise of respondent's disclosure, as set forth in his application (A. 3). Thus, because respondent's idea,

like Benson's, "has no substantial practical application except in connection with a digital computer," a patent on respondent's "machine system" would "wholly pre-empt" use of that idea and in "practical effect" would be a patent on the idea. See *Benson, supra,* 409 U.S. at 71–72.

But, however unobvious they may be, ideas have always constituted "nonstatutory" and thus unpatentable subject matter. What may be patentable is the specific and tangible application of novel ideas in some concrete form to a specific use, in which the idea is concretely embodied in a novel and inventive machine, article of manufacture, chemical or other physical composition, or process for making or using such machinery, manufactures, or compositions. The rationale of the rule against patenting ideas *per se* is that hindering the free exchange and spread in use of mathematical, scientific and other ideas by an indiscriminate grant of patent monopolies would obstruct, rather than promote, "the Progress of Science and useful Arts." U.S. Const., Art. I, Sec. 8, Cl. 8.

Thus, this Court stated in *Benson* that "[p]henomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work." 409 U.S. at 67; see *O'Reilly* v. *Morse,* 15 How. 62, 112–113. The same principle has been applied to business ideas, because patents on methods of transacting business would destroy legitimate competition, just as patents on scientific ideas would impede scientific progress. See *Joseph E. Sea-*

gram & Sons, Inc. v. *Marzall,* 180 F. 2d 26, 28 (C.A.D.C.) (denying patent on method of testing consumer product preferences).[18]

For example, the idea of the self-service cafeteria like Morse's idea of transmitting information at a distance by means of electromagnetic force (see *Benson, supra,* 409 U.S. at 68), cannot be patented. See *Loew's Drive-In Theatres, Inc.* v. *Park-In Theatres, Inc.,* 174 F. 2d 547, 552 (C.A. 1), certiorari denied, 338 U.S. 822. No matter how novel, such ideas can be the basis for a patent, if at all, only in terms of, and to the extent of, their embodiment in a novel machine (such as Morse's telegraph apparatus or the coin-operated food dispensing machine used in certain cafeterias) or in a novel process.

Even when an idea is unobvious its implementation must be unobvious, as well, to justify the grant of a patent monopoly, whether the implementation involves a process or a product. The patent laws require that not only must there be the application of the idea to a new and useful end (embodied in a specific, tangible product or process), but the conception and devising of the end product or process must dis-

[18] The federal courts have repeatedly held that ideas for methods of doing business are not patentable. *E.g., Guthrie* v. *Curlett,* 10 F. 2d 725 (C.A. 2) (method of abbreviating rail tariff schedules); *Berardini* v. *Tocci,* 190 Fed. 329, 332–333 (C.C.S.D. N.Y.), affirmed on the opinion below, 200 Fed. 1021 (C.A. 2) (system of using code messages for banking transactions); *Hotel Security Checking Co.* v. *Lorraine Co.,* 160 Fed. 467, 469 (C.A. 2) (restaurant bookkeeping system). See also *Conover* v. *Coe,* 99 F. 2d 377, 379 (C.A.D.C.).

play the inventive faculty. The means or mode of implementing the idea must extend beyond the routine, conventional, or obvious applications of the idea that follow once the idea is known. See, *e.g., Benson, supra,* 409 U.S. at 67–68; *Funk Bros. Seed Co.* v. *Kalo Inoculant Co.,* 333 U.S. 127, 130;[19] *Armour Pharmaceutical Co.* v. *Richardson-Merrell, Inc.,* 396 F. 2d 70, 73–74 (C.A. 3);[20] *National Lead Co.* v. *Western Lead Products Co.,* 324 F. 2d 539, 542 (C.A. 9); *Davison Chemical Corp.* v. *Joliet Chemicals, Inc.,* 179 F. 2d 793, 794–795 (C.A. 7), certiorari denied, 340 U.S. 816; *Loew's Drive-In Theatres, Inc.* v. *Park-In Theatres, Inc., supra,* 174 F. 2d at 551–552.

[19] In *Funk* the patent covered a particular mixture of strains of bacteria useful in fixing nitrogen in soil, because the strains were not mutually inhibitory. The discovery that such strains existed was not inventive, because it was a natural phenomenon or principle. As for making the patented product, this was obvious "once nature's secret of the non-inhibitive quality of certain strains of the species of Rhizobium was discovered * * *", and the patent was therefore invalid. 333 U.S. at 131–132.

[20] In *Armour* the court stated (396 F. 2d at 74–75): "[T]he test of patentability of a natural phenomenon is as follows: Would an artisan, knowing the newly discovered natural phenomenon require more than ordinary skill to discover the process by which to apply that phenomenon as the patentee had done? * * * Once nature's secret that the ileum [intestine] would absorb trypsin [the enzyme] was uncovered, any artisan would have known the process of enterically coating the trypsin to enable it to pass through the acidic environment of the stomach and continue into the ileum. * * * Assuming *arguendo* that * * * [the patentee had discovered that trypsin absorbed in the ileum had an anti-inflammatory effect, his] application of that newly discovered principle would itself have to be inventive in order to sustain patent '93."

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In other words, the process or apparatus implementing a new idea must itself satisfy the conditions of patentability, in which case a patent monopoly may be granted, not on the idea, but on the inventive process or product.[21]

[21] The Court of Customs and Patent Appeals has apparently taken a different view. See *Application of Prater*, 415 F. 2d 1393, 1405–1406, holding that an analog computer structured to implement a new idea is patentable, and not obvious, even if, once the idea is known, any skilled programmer could devise a program to carry it out on a general purpose digital computer. The decision below implicitly rests on this premise, as did the opinion of the Court of Customs and Patent Appeals in *Application of Benson*. We submit that that court's interpretation of the statute, to the extent that it survives this Court's decision in *Benson*, is erroneous and in conflict with *Funk*, *supra*, as well as the cited decisions of the courts of appeals.

It is also in conflict with the legislative history of Section 101, which reveals the rejection of a provision (H.R. 9133, § 101, 81st Cong., 2d Sess. (1950)) that would have overruled *Funk* and permitted the patenting of a noninventive application of a newly-discovered natural principle. See Hearings on H.R. 3760 before Subcommittee No. 3 of the House Committee on the Judiciary, 82d Cong., 1st Sess. 116–123 (1951); cf. 98 Cong. Rec. 9323 (1952) (quoted in *Aro Mfg. Co.* v. *Convertible Top Co.*, 365 U.S. 336, 347, n. 2 (concurring opinion)). As this Court said in *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518, 531:

"* * * we should not expand patent rights by overruling or modifying our prior cases construing the patent statutes, unless the argument for expansion of privilege is based on more than mere inference from ambiguous statutory language. We would require a clear and certain signal from Congress before approving the position of a litigant who, as respondent here, argues that the beachhead of privilege is wider, and the area of public use narrower, than courts had previously thought. No such signal legitimizes respondent's position in this litigation."

III. THE IMPLEMENTATION OF RESPONDENT'S NEW IDEA FOR COMPUTER USAGE IS NOT PATENTABLE

Respondent seeks a patent by reason of having devised a new use for an existing machine, the conventional general purpose digital computer. While one who invents a new use for an existing machine may under some circumstances be entitled to a patent monopoly, respondent's new use does not qualify for such a grant.

A. A NEW USE FOR AN EXISTING MACHINE IS NOT PATENTABLE AS A MACHINE

Since the enactment of the first patent law in 1790 (1 Stat. 109), Congress and the courts have adhered to the principle that a new use for an old machine can never be patented as a machine. See, *e.g.*, *Roberts* v. *Ryer*, 91 U.S. 150, 157 ("It is no new invention to use an old machine for a new purpose"); *Ansonia Brass and Copper Co.* v. *Electrical Supply Co.*, 144 U.S. 11, 18; *General Elec. Co.* v. *Jewel Incandescent Lamp Co.*, 326 U.S. 242, 247–249; *Old Town Ribbon & Carbon Co.* v. *Columbia Ribbon & Carbon Mfg. Co.*, 159 F. 2d 379, 382 (C.A. 2) (L. Hand, J.); *Exer-Genie, Inc.* v. *McDonald*, 453 F. 2d 132, 134–135 (C.A. 9), certiorari denied, 405 U.S. 1075; cf. *Application of Zierden*, 411 F. 2d 1325, 1328–1329 (C.C.P.A.).

Like much of American patent law, as embodied both in statutes and in decisions of the courts, this principle was first expressed by Thomas Jefferson. In his famous letter to Isaac McPherson in 1813

(cited in *Graham* v. *John Deere Co.*, 383 U.S. 1, 8 n. 2, 10, n. 3). Jefferson said:

> If one person invents a knife convenient for pointing our pens, another cannot have a patent right for the same knife to point our pencils. A compass was invented for navigating the sea; another could not have a patent right for using it to survey land. A machine for threshing *wheat* has been invented in Scotland; a second person cannot get a patent right for the same machine to thresh *oats*, a third *rye*, a fourth *peas*, a fifth *clover*, etc. A string of buckets is invented and used for raising water, ore, etc., can a second have a patent right to the same machine for raising wheat, a third oats, a fourth rye, a fifth peas, etc.? [VI *Writings of Thomas Jefferson* 176–177 (Washington ed. 1854).]

He added that one of the general rules established by the patent board, of which he had been a member, was that (*id.* at 181)—

> a machine of which we were possessed, might be applied by every man to any use of which it is susceptible and that this right ought not to be taken from him and given to a monopolist, because the first perhaps had occasion so to apply it.

The insightful analysis Jefferson addressed to the simpler machines of his day applies with equal force to machines as complex and versatile as the modern general purpose digital computer. When the principal benefit of an existing machine lies in the versatility of its applications, no conventional use of the machine for a new purpose entitles anyone to an exclusive

patent monopoly covering the machine.

B. A NEW USE FOR AN EXISTING MACHINE COULD BE PATENTABLE (IF AT ALL) ONLY AS A "PROCESS," BUT RESPONDENT HAS ABANDONED HIS PROCESS CLAIMS AND THIS COURT HAS HELD PROCESS PATENTS UNAVAILABLE FOR PROGRAMS FOR GENERAL PURPOSE DIGITAL COMPUTERS

In revising the Patent Code in 1952 (see 66 Stat. 797), Congress explicitly recognized limited patent protection for one who invents a new use for an existing machine. Thus, in Section 100(b) Congress defined "process" as including "a new use of a known * * * machine * * * " (35 U.S.C. 100(b)), while Section 101 provides that one who invents or discovers "any new and useful process, * * * or any new and useful improvement thereof, may obtain a patent therefor," subject to the other conditions and requirements of the Patent Code (*e.g.*, novelty and non-obviousness). 35 U.S.C. 101. Enactment of Section 100(b) did not affect the established principle that a new use of an old machine is not patentable as a machine; rather, it simply meant that a new use could be patentable, if at all, only as a process. See *Application of Hack*, 245 F. 2d 246, 248 (C.C.P.A.) ("discoverer of a new use must protect his discovery by means of process or method claims and not product claims").

Respondent, however, has abandoned his "process" claims for the new use of computers involved here (see pp. 8–9, *supra*). As a result, he has eliminated what would have been the only possible basis for patentability of a new use of existing general purpose digital computers. Abandonment of the process claims

was well-advised—and their retention would not have availed respondent here—because in *Benson* this Court held that a program that had no substantial practical application except in connection with a general purpose digital computer was not a patentable "process" within the meaning of Sections 100(b) and 101 of the Patent Code.

Thus, in *Benson* this Court reversed a judgment of the court below, which had allowed a patent monopoly over a method for using a conventional, general purpose digital computer to convert one form of numerical information (binary-coded decimal) to another (pure binary). In response to the suggestion that its decision "precludes a patent for any program servicing a computer" (409 U.S. at 71), the Court stated that it did not so hold (*ibid.*), explaining that it dealt only with a program for a digital computer and did not extend its holding against patentability to analog computers (*ibid.*). The Court concluded that "[i]f these programs are to be [made] patentable," then Congress must deal with the matter (*id.* at 73, footnote omitted).

While the outer boundaries of the *Benson* ruling may not be precisely defined (see the dissenting opinion of Judge Rich below, Pet. App. 19A), we believe that it covers the instant case. Respondent claims an idea for programming, in the ordinary way, a conventional, general purpose digital computer. At a minimum, *Benson* precludes patent monopolies on such programs as processes—the only relevant category—regardless of the possible patentability of other types of computer programs.

The rationale of *Benson* is that such programs are not sufficiently removed, inventively, from the ideas they embody. The translation of an idea into a program for a conventional, general purpose digital computer no more imports patentability to the idea than does the translation of the idea from English to French or from English to Fortran (or any other computer language). Programs for use of conventional, general purpose digital computers are unpatentable under *Benson,* unless perhaps, at the very least, they "synergize" with the computer, so that the two co-act in an improved, new, and unobvious manner combining "ordinary elements in an extraordinary way" (*Deepsouth Packing Co.* v. *Laitram Corp.,* 406 U.S. 518, 521) in which "the whole in some way exceeds the sum of its parts." *Great Atl. & Pac. Tea Co.* v. *Supermarket Equipment Corp.,* 340 U.S. 147, 152; *Anderson's-Black Rock, Inc.* v. *Pavement Salvage Co.,* 396 U.S. 57, 61. Respondent's programming idea does not meet this test.

C. THE PROGRAMMING OF AN EXISTING GENERAL PURPOSE DIGITAL COMPUTER DOES NOT CREATE A "NEW MACHINE" OR "MACHINE SYSTEM" FOR WHICH A PATENT MONOPOLY MAY BE GRANTED

Respondent has attempted, by inventive semantics and a facile drafting device, to circumvent the foregoing barriers to obtaining a patent on his idea for programming existing digital computers. Thus, rather

than seeking a machine patent by claiming discovery of a new use for an existing machine (barred by long-standing authority), he claims that an existing digital computer programmed to implement his idea is a "new machine," and rather than seeking a process patent on his idea for use of a computer (barred by *Benson*), he presses his claims in terms of a "machine system" consisting of the programmed computer. These efforts are without merit.

In no meaningful sense has respondent invented a "new machine" or "machine system." The only actual machine involved is the familiar general purpose digital computer, which is inherently capable of performing a wide variety of data processing tasks when so instructed through appropriate programs. If one could call such a computer, each time its program is modified, a "new machine," it would be so only in a purely linguistic or rhetorical sense, not in any pragmatic and realistic sense; it would be a "new machine" devised not by a mechanic or artisan but by one skilled in "the highly developed art of drafting patent claims * * *." *Brenner* v. *Manson,* 383 U.S. 519, 534.

The court below elevated form over substance in declaring *Benson* not "applicable" merely because respondent's patent application characterized his idea as a "machine system." That holding would provide a simple means for circumventing the important principle applied in *Benson*. As in that case, respondent's idea involves, at best, merely a new use for an existing machine, and that idea should no more be patent-

able when described here as a new "machine system" than when described in *Benson* as a new "process." As Judge Rich observed, any competent patent draftsman can readily convert claims from one format to the other (Pet. App. 20A).[22]

Respondent contends that he has "devised a [new] single special-purpose computer" (Br. in Opp. 4). He argues (*id.* at 5) that his "claims *per se* do not raise any issue of computer programs; they do not call for the use of a computer program in the construction of respondent's special-purpose computer," because a "wired computer-circuitry version" of respondent's program could instead be used to carry out the idea of performing the bookkeeping service,[23] and that, in any event, "a program inserted in a general-purpose computer creates a new machine" (*id.* at 6). The latter view appears to be based upon *Application of Bernhart,* 417 F. 2d 1395, 1400 (C.C.P.A.) (see Pet. App. 7A, n. 3). As applied to respondent's patent application, at least, such an analysis cannot withstand scrutiny.

First, respondent's own description of his alleged invention, in the court below, conceded that this invention "was reduced to practice in the software form of computer programs (Pet. App. 19A)" and "is being

[22] We have set out in Appendix D to the petition (p. 37A) the typical *Benson* claim (see 409 U.S. 73–74) recast in respondent's "machine system" format.

[23] This contention is, however, at variance with respondent's assertion that "[t]he invention is a single practical special-purpose computer, while the prior art's impractical alternative would require many special-purpose computers, each inflexibly set to a user's particular format and procedure" (Br. in Opp. 10).

sold as a computer program to banks and to other data processing companies so that they can perform these data processing services for depositors" (*ibid*). In addition, respondent's application, and his disclosure required under 35 U.S.C. 112, are expressly founded upon the use of existing automatic data processing equipment employing general purpose digital computers for bank record-keeping (A. 3); thus, the court below observed that the general control for the bookkeeping system, "as allegedly reduced to practice, is in the form of a software program" and that the application illustrates its use by means of a complete program and flow chart "for use with a known commercial general-purpose computer, the IBM 1400 series, to provide the special-purpose computer which forms the apparatus of appellant's invention" (Pet. App. 5A). More importantly, respondent has not claimed or disclosed a new "hardware" special purpose machine in his application. As Judge Rich recognized in dissent, respondent has proposed only a software program for use in the existing hardware of general purpose computers (*id.* at 19A). If respondent's invention is embodied in the program, it simply cannot encompass in any relevant way the various existing machines with which it may be used.

Second, respondent's suggested use of wired computer circuitry, instead of programming, is without substantial practical application. Respondent sells his idea to banks as a program, to use in conjunction with the banks' existing program routines for processing checks and deposits. Banks would have no interest in

destroying the versatility of their general-purpose computers (often leased) by building "wired computer-circuitry versions" of the program into the machine. This is as unrealistic as the argument, rejected in *Benson* (409 U.S. at 71–72), that the conversion method in issue there could be of practical use in anything but a general purpose digital computer.

Finally, respondent's premise (based on *Bernhart*) that a program in a general purpose computer creates a new special purpose machine, is unsound.[24] As Judge

[24] Respondent contends that the Commissioner is jurisdictionally barred from challenging here the rationale of the Court of Customs and Patent Appeals. He reasons that the Board of Appeals' decision rejected the examiner's apparent premise that a particular program does not convert a general purpose computer into a different machine, and that the Commissioner could not appeal the Board's ruling (which in any event was adverse to respondent) or any statement made in the course of that ruling. We have answered this contention in detail in our Reply Brief filed in answer to respondent's Brief in Opposition. In summary, we contend that when the Board of Appeals has substituted its own rejection for the examiner's (under 37 C.F.R. 1.196(b)), a judgment of the Court of Customs and Patent Appeals reversing the Board's ruling (brought before this Court on a writ of certiorari under 28 U.S.C. 1256) may be considered in the light of the rationale of the examiner's ruling as well as that of the Board. Limitations imposed on the Commissioner by 35 U.S.C. 141, 142 and 144 do not restrict the authority of this Court under 28 U.S.C. 1256 to review the entire case. *Brenner* v. *Manson*, *supra*, 383 U.S. at 523, n. 6.

In any event, respondent's notice of appeal (A. 110–115) challenged every aspect of the Board's decision, including: the Board's application of the then-unreversed decision of the Court of Customs and Patent Appeals in *Application of Benson*, *supra;* the Board's determination that the claims did not in-

Rich pointed out, "the legal doctrine that a new program makes an old general purpose digital computer into a new and different machine * * * partakes of the nature of a legal fiction when it comes to drafting claims" (*id.* at 19A). The Board of Appeals properly observed that, even assuming (as the Board did, see pp. 6–7, *supra,* n. 6) the correctness of *Bernhart, supra,* there is no structural or operational change in the physical identity of the computer simply because respondent, the bank, or the bank's customer has decided to associate a new meaning with a particular physical state of memory cells within the computer, *i.e.,* that a particular combination of signals in a particular context is to be deemed "rent" or "dividends" (see Pet. App. 30A). Nor does a general purpose digital computer become a "different" machine simply because respondent, the bank, or the bank's customer chooses to have such an association made (see *ibid.*).

(Continued)
volve patentable subject matter; its conclusion that the claims did not concern a particular apparatus or enhance its functioning; and its holding that, in substance, there was no difference between the "machine" and "process" claims, which the Board ruled would stand or fall together. Thus, the issues raised in the petition and this brief are properly before this Court, even if (contrary to our contention in the preceding paragraph) the Patent Code's provisions were held to limit the scope of this Court's certiorari jurisdiction.

Finally, this Court's decision in *Benson*, rendered after respondent had filed his "reasons of appeal" (A. 110), required the court below to apply *Benson* and permits the Commissioner to challenge in this Court its failure to do so properly. Cf. *Bradley* v. *School Board*, 416 U.S. 696, 711–721; *Thorpe* v. *Housing Authority*, 393 U.S. 268, 281.

There is no basis in the Patent Code, its legislative history, or the prior decisions of this Court for this strained and unreasonable conception of identity and difference.[25] A new program in an old computer no more turns the computer into a "new" machine (let alone a new and unobvious one) than: putting a new piano roll into an old player piano makes it a "new" piano; putting a new recording on an old phonograph turns it into a "new" phonograph;[26] inserting into a "mag card" typewriter a new magnetic card coded with the text of a new letter turns the machine into a "new" typewriter; or shaking an old kaleidoscope turns it into a "new" one. In each case it is precisely the ability to perform in such varied ways that is the essence of the old machine.

The general purpose digital computer used to implement respondent's idea (*e.g.,* the IBM 1400) is not respondent's creation. When the patents covering such machines expire, their subject matter will fall into the public domain. See, *e.g., Scott Paper Co.* v. *Marcalus Mfg. Co.,* 326 U.S. 249, 255–256; *Kellogg Co.* v. *National Biscuit Co.,* 305 U.S. 111, 117. Under the decision of the court below, however, respondent would receive, in effect, a second and further partial monopoly on "making, using, or selling" (35 U.S.C. 154)

[25] Respondent's arbitrary assignment of meaning to "same" and "different" is reminiscent of Heraclitus' concept that one can never step into the "same" river twice because "different" waters will be flowing past.

[26] Cf. *Leeds & Catlin Co.* v. *Victor Talking Mach. Co.*, 213 U.S. 325. See also *Mercoid Corp.* v. *Mid-Continent Inv. Co.*, 320 U.S. 661, 668.

such machines,[27] which *pro tanto* would impermissibly withdraw from the public its right of "free access to materials already available."[28] *Graham* v. *John Deere Co.*, 383 U.S. 1, 6; *Anderson's-Black Rock, Inc.* v. *Pavement Salvage Co., supra,* 396 U.S. at 61. We do not believe that Congress intended the present patent laws to make available such a monopoly.

We acknowledge that the dynamic interrelationship between general purpose digital computers and the software programs through which they are applied to numerous and varying tasks may call for new measures or legal concepts to further reward and stimulate innovation in programming. This Court recognized as much in *Benson* when it called upon Congress to determine "[i]f these programs are to be patentable" (409 U.S. at 73) or otherwise to be protected. But, as the law now stands, however high "a reach of imagi-

[27] Indeed, since "[t]he inventor of a machine is entitled to the benefit of all the uses to which it can be put, no matter whether he had conceived the idea of the use or not" (*Roberts* v. *Ryer*, *supra*, 91 U.S. at 157), respondent's claim of "machine" patent rights on programmed general purpose digital computers (as distinguished from a process claim) would seem to conflict with patents already granted to the inventors of those versatile machines.

[28] The effect of a machine patent would be even broader than that of the process patent held unavailable by this Court in *Benson*, for it would grant the right to exclude others from "making" as well as "using" or "selling" the patented invention. We note that while respondent's claimed invention is directed primarily at the way in which banks can use existing general purpose digital computers, he also suggests the possibility that his idea could be used by other enterprises, such as those operating credit card accounts (A. 65).

native ingenuity" a program for a general purpose digital computer may have demanded from its creator, it is nonetheless not patentable "because it will not be within the terms of the statute." *Old Town Ribbon & Carbon Co.* v. *Columbia Ribbon & Carbon Mfg. Co., supra,* 159 F. 2d at 382. See also *Deepsouth Packing Co.* v. *Laitram Corp., supra,* 406 U.S. at 531.

The sanction given by the court below to respondent's semantic circumvention of *Benson* recalls the sound conclusion of the President's Commission on the Patent System, quoted by this Court in *Benson* (409 U.S. at 72), that under present law—

> [i]ndirect attempts to obtain patents [on computer programs] * * * by drafting claims as a process, or a machine or components thereof programmed in a given manner * * * have confused the issue further and should not be permitted. ["To Promote the Progress of * * * Useful Arts," Report of the President's Commission on the Patent System 13 (1966).][29]

[29] That a computer program or programming idea does not qualify for a patent monopoly does not mean that it is necessarily without more limited legal protection against use by others. In some circumstances it might be entitled to copyright or trade secret protection. See *Kewanee Oil Co.* v. *Bicron Corp.*, 416 U.S. 470. See generally Bender, *Computer Programs: Should They Be Patentable?*, 68 Colum. L. Rev. 241, 248–250 (1968); Breyer, *The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies, and Computer Programs*, 84 Harv. L. Rev. 281, 340–350 (1970); Comment, *Protecting Proprietary Rights of Computer Programs: The Need for New Legislative Protection*, 21 Cath. U. L. Rev. 181, 191–198 (1971); Note, *Copyright Protection For Computer Programs*, 64 Colum. L. Rev. 1274 (1964).

IV. THE CLAIMED PROGRAMMING IDEA IS OBVIOUS IN LIGHT OF THE PRIOR ART

Even if respondent's idea for a new use of a bank's conventional, general purpose digital computer were deemed potentially to involve patentable subject matter, it would be "obvious" to one skilled in the art of developing uses for computers, and therefore unpatentable under 35 U.S.C. 103, contrary to the ruling of the court below.[30]

As the Board observed in rejecting respondent's claims as obvious (Pet. App. 34A–35A), banks using existing data processing equipment frequently have several accounts for each customer, denominated as "special," "trust," "escrow," "personal," and the like. Each of these terms is comparable to a "category code" as called for by respondent's claims. Although the bank may, for some purposes, regard accounts so denominated as separate accounts of the customer, the bank's treatment of the accounts corresponds to respondent's idea for using category codes. In fact, respondent merely adds the category code to the end of the account number (*e.g.*, p. 19, *supra*) to create, in effect, a series of differing sub-account numbers to be used during the automatic data processing. Thus, under a different label, banks already provide a similar form of record keeping facility, since the computer, in handling a customer's separate special accounts,

[30] The obviousness dispute in this case, over which Chief Judge Markey dissented, concerns the obviousness of the basic idea of associating category codes to credit and debit transactions in checking accounts, not the means of implementing that idea.

credits and debits the accounts and renders periodic summary statements to the customer. Respondent's printing of the summary sheets for all of a customer's special accounts on a single document, with totals for all accounts, is but an obvious extension, as a convenience the customer.[31]

The Board also relied (Pet. App. 35A) on the Dirks prior art patent (see A. 94–106), which discloses a comprehensive automatic data processing system to serve the varied purposes of individual departments of a large business organization. Dirks' system is especially applicable to ledger-type bookkeeping or mercantile cost accounting, and allows personalized files for localized areas of responsibiliy. Each area is assigned an account number in which transaction and balance files are kept and updated. The bookkeeping is on a cost accounting basis, such as for sales of a product. As the Board observed (*ibid.*), despite any superficial differences between mercantile cost accounting and bank bookkeeping, "[t]here is no fundamental difference" in the data processing apparatus or methods used in respondent's claimed invention and in Dirks' patented invention; the equipment and methods are necessarily the same, whether the amount

[31] Moreover, bank practices concerning ordinary checking accounts also embody the essence of respondent's claimed invention. Both with and without computers banks have long recorded appropriate service charges associated with debit transactions and included in the monthly statement a subtotal of that category of charges. They have also provided subtotals of all checks and all deposits. See Penney, *Bank Statements, Cancelled Checks, and Article Four in the Electronic Age*, 65 Mich. L. Rev. 1341, 1357 (1967).

debited represents the value of merchandise or the value of a check.[32]

Note, for example, the computerized accounts payable statement in Chart VIa of the Dirks patent (A. 102). The "customer" here is the cashier of the corporation, responsible for disbursing funds. The particular Item Groups are his "category numbers." Item Group 3 (*e.g.*, Payroll) must be continuously updated and requires obvious subtallies (*e.g.*, tax withholdings, savings bonds, charitable withholdings, automatic deposits in savings institutions, etc.). Moreover, for balance sheet purposes, an overall tally is obviously desirable.

In addition to those passages noted by the Board,[33] Dirks also disclosed that "the departments or other

[32] The finding of the court below that the claimed invention here is not the "equivalent" of Dirks' patented invention (Pet. App. 15A) might be material in determining whether use of respondent's system would infringe Dirks' patent (see, *e.g.*, *Sanitary Refrigerator Co.* v. *Winters*, 280 U.S. 30, 42; *Westinghouse* v. *Boyden Power Brake Co.*, 170 U.S. 537, 568), or whether it is unpatentable under 35 U.S.C. 102 as having been anticipated by prior art. As Chief Judge Markey noted, however, in considering a rejection under Section 103 the question is not "[w]hether * * * Dirks discloses category codes or their equivalent * * * [but] whether the contribution of such category codes * * * is a difference sufficient to render the claimed subject matter unobvious to one skilled in the applicable art" (Pet. App. 17A).

[33] The Board stated (Pet. App. 35A):

> Dirks discloses a comprehensive automatic data processing system for many different purposes in networks of individual departments of a large business corporation ([A. 96] column 6, line 35). This system alows personalized files for localized areas of responsibility ([A. 97] column 7, line 40). Each area is assigned an account number in which transaction and balance files are kept and updated ([A. 98] column 9, lines 21–64). The bookkeeping is on a cost accounting basis ([A. 102] column 18, line 62) such as for sales of a product.

organizational users ["customers"] may retain their authority over operative file systems" (A. 105, column 23, lines 53 and 54) and that "[p]rogramming is very easy and different programs ["master subfiles"] are very easily coordinated" (A. 106, column 26, lines 49 and 50). As noted by the examiner (A. 88), respondent admits that the cited prior art general purpose computers, including that of Dirks, are capable of implementing his idea, when properly programmed.[34]

The differences between respondent's idea and the content of the prior art are so slight that it would have been obvious to a person of ordinary skill in devising uses for computers by banks to have banks provide an additional bookkeeping service by using category codes.[35] Accordingly, the Court of Customs and Patent Appeals erred in holding respondent's idea unobvious and thus patentable. See *Graham* v. *John Deere Co., supra.*

[34] Indeed, no new programming of Dirks' apparatus appears to be necessary, where respondent's claims 20–24 (A. 107–109) are concerned: respondent's master subfile control systems represent programs for individual customers, akin to Dirks' individual programming for corporate divisions.

[35] Even proponents of patent protection for computer programs recognize that because of "lack of inventiveness" relatively few programs would be entitled to patents. *E.g.*, Freed, *Computers and Law—A Reference Work* 303 (4th ed. 1973).

CONCLUSION

For the foregoing reasons, the judgment of the Court of Customs and Patent Appeals should be reversed.

Respectfully submitted.

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